

1. A wireless optical navigation device comprising:

an optical position tracking system;

a transmitter electrically coupled to said optical position tracking system; and

5 a micro fuel cell electrically coupled to said transmitter and said optical position tracking system, said micro fuel cell capable of providing electrical power for said optical position tracking system and said transmitter.

10 2. The apparatus of Claim 1 wherein said transmitter is an infrared type transmitter.

3. The apparatus of Claim 1 wherein said micro fuel cell is a direct methanol micro fuel cell.

15 4. The apparatus of Claim 1 wherein said micro fuel cell is a water recycling micro fuel cell.

5. The apparatus of Claim 1 wherein said micro fuel cell comprises a MEMs pump.

20 6. The apparatus of Claim 1 wherein said micro fuel cell comprises microchannel structures for waste gas removal.

7. The apparatus of Claim 1 wherein said micro fuel cell comprises microchannel structures for water recovery.

8. The apparatus of Claim 1 further comprising a replaceable fuel cartridge.

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9. The apparatus of Claim 8 wherein said replaceable fuel cartridge contains methanol.

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10. The apparatus of Claim 8 wherein said replaceable fuel cartridge includes a fuel membrane.

11. The apparatus of Claim 1 further comprising a capacitor that is electrically coupled to said micro fuel cell and said optical position tracking system..

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12. The apparatus of Claim 1 further comprising a rechargeable battery that is electrically coupled to said micro fuel cell and said optical position tracking system.

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13. The apparatus of Claim 12 wherein said battery is a polymer lithium battery.

14. A method for making a wireless optical navigation device comprising:

providing an optical position tracking system;

providing a transmitter electrically coupled to said optical position tracking system; and

5 coupling a micro fuel cell to said transmitter and said optical position tracking system, said micro fuel cell capable of providing electrical power for said optical position tracking system and said transmitter.

15. The method of Claim 14 wherein said transmitter is an infrared type

10 transmitter.

16. The method of Claim 14 where said micro fuel cell is a direct methanol micro fuel cell.

15 17. The method of Claim 14 wherein said micro fuel cell is a water recycling micro fuel cell.

18. The method of Claim 14 wherein said micro fuel cell incorporates a MEMs pump.

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19. The method of Claim 14 further comprising providing a replaceable fuel cartridge.

20. The method of Claim 19 wherein said replaceable fuel cartridge is enabled  
25 to dispense methanol.